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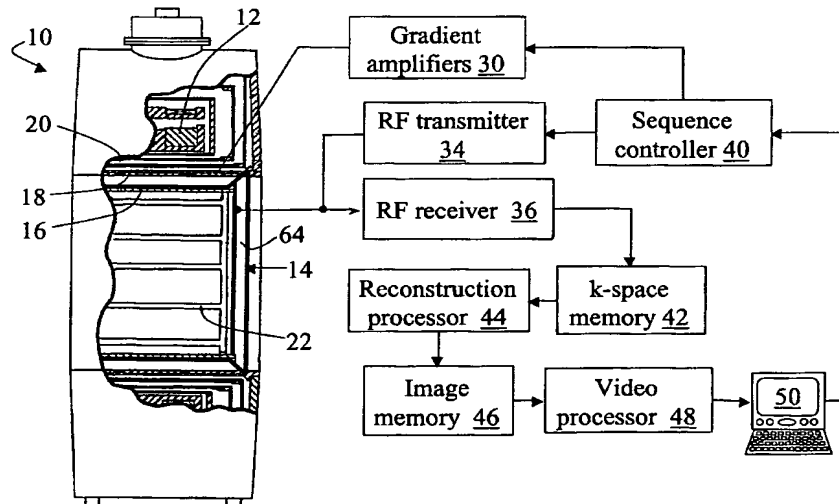
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(54) Title: SELF-SHIELDED GRADIENT FIELD COIL FOR MAGNETIC RESONANCE IMAGING



(57) Abstract: A gradient coil for a magnetic resonance imaging apparatus (10) includes a primary coil (16) defining an inner cylindrical surface (60), and shield coil (18) or coils defining a coaxial outer cylindrical surface (62). Coil jumps (74) connect the primary and shield coils (16, 18). The coil jumps (74) define a non-planar current-sharing surface (64) extending between inner and outer contours (66, 68) that coincide with the inner and outer cylindrical surfaces (60, 62), respectively. The coil (16, 18, 74) defines a current path that passes across the current sharing surface (64) between the inner and outer contours (66, 68) a plurality of times. Optionally, some primary coil turns (70) are electrically interconnected to define an isolated primary sub coil (P2) that together with a second shield (S2, S2', S2'') enables a discretely or continuously selectable field of view.